Draft Environmental Assessment

NORTHWAY AIRPORT PERMANENT REPAIRS

Northway, Alaska

FEMA DR-1440-AK HMGP

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FEMA

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AASP	Alaska Aviation System Plan
AC	Asphalt Concrete
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
AEA	Alaska Energy Authority
AHRS	Alaska Heritage Resources Survey
ALP	Airport Layout Plan
AOA	Airport Operations Area
APE	Area of Potential Effect
ARC	Airport Reference Code
BMPs	Best Management Practices
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CAA	Civil Aeronautics Administration
CABC	Crushed Aggregate Base Course
CFR	Code of Federal Regulations
CY	Cubic Yards
DHS&EM	State of Alaska Division of Homeland Security and Emergency Management
DOT&PF	State of Alaska Department of Transportation and Public Facilities
DRO	Diesel Range Organic
DFS	Denali Fault System
DNR	Alaska Department of Natural Resources
E	East
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESCP	Erosion Sediment Control Plan
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FSS	Flight Service Station
GRO	Gasoline Range Organic
LF	Linear Feet

MPH	Miles Per Hour
NAAQS	National Ambient Air Quality Standards
NAVAIDs	Navigational Aids
NFIP	National Flood Insurance Program
NRCS	National Resources Conservation Service
OFA	Object Free Area
ORT	Northway Airport
PAPIs	Precision Approach Path Indicators
REC	Recognized Environmental Condition
REILs	Runway End Identifier Lights
RSA	Runway Safety Area
SCS	U.S. Department of Agriculture Soil Conservation Service
SHPO	Alaska State Historic Preservation Office
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traffic Control Pattern
TSA	Taxiway Safety Area
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USKH	USKH, Inc.
VASIs	Visual Approach Slope Indicators
WNW	West-Northwest

1 INTRODUCTION

1.1 Location and Background

Northway Airport (ORT) is located on the east bank of Nabesna Slough at approximately 62º 58' North Latitude and 141º 56' West Longitude (Sections 25 and 26, Township 14N, Range 18E, Copper River Meridian). The airport lies about seven miles west of the Alaska Highway, 325 road miles northeast of Anchorage, and 265 road miles southeast of Fairbanks (Figure 1). ORT is located adjacent to the community of Northway. Northway is entirely surrounded by the Tetlin National Wildlife Refuge, a 730,000-acre refuge established by the U.S. Congress in 1980 to conserve wildlife habitat and subsistence resources. ORT property is about 1,200 acres in size and is not a part of the refuge.

ORT was built in 1941 for the Civil Aeronautics Administration (CAA) for staging during World War II. ORT is now owned by the State of Alaska and serves the general and commercial aviation needs of eastern interior Alaska. The Alaska Aviation System Plan (AASP) classifies ORT as a local airport. The AASP defines a local airport as an airport that serves as secondary access to communities located on a road system.

The Northway Airport serves the eastern interior region of Alaska for commercial and general aviation needs, fire fighting, and medevac services. ORT is the U.S. Customs point of entry for aircraft entering into Alaska through Canada. The fixed-wing based aircraft fleet at ORT consists of single and twin-engine piston aircraft (Figure 2: ORT Aerial Photograph).

The Draft Airport Layout Plan (ALP) developed for this project designates the Lockheed PC Orion and McDonald Douglas DC-6 as the future (2025) design aircraft for ORT, resulting in an Airport Reference Code (ARC) of B-III (Appendix A). ARC airport designations are functions of runway approach speed and design aircraft wing width.

On November 3, 2002, an earthquake measuring 7.9 on the Richter scale was centered about 90 miles south of Fairbanks on the Denali Fault (Figure 3). ORT sustained damage as a result of the earthquake and aftershocks occurring between November 3 and November 10, 2002.

Figure 1: Location and Vicinity Map

Figure 2: Pre-Earthquake Aerial Photograph

Figure 3: November 3, 2002 Earthquake Epicenter

1.2 Purpose

The purpose of the Federal Emergency Agency's (FEMA) Public Assistance Program is to provide funding for restoring the functions of a community's infrastructure after a disaster. The purpose of the proposed action presented in this Environmental Assessment (EA) is to restore the damaged element of ORT and the airport access road to original pre-disaster function and upgrade the airport to meet current federal regulations and Federal Aviation Administration (FAA) design standards.

1.3 Need

The November 2002 earthquake and aftershocks buckled the airport runway, safety area, taxiway/taxilane, apron, and access road, also causing longitudinal and transverse cracking, which rendered the runway unusable. Damage also rendered airport lighting, navigational aids, and portions of the airport access road unusable. The need for this project is to provide airport facilities in the eastern interior portion of Alaska to accommodate commercial and general aviation, fire fighting, medevac services, and U.S. Customs. The airport facilities must meet current federal, local, and state regulations and FAA design standards.

The State of Alaska Department of Transportation and Public Facilities (DOT&PF) performed temporary repairs to the airport during the winter of 2002-2003. Temporary construction made a portion of the runway usable, but the following deficiencies remain (Figure 4).

Conditions of Current Airport Facilities:

- The length of the runway (3304') is not adequate for the aircraft using the runway. The runway length needs to be returned to its pre-disaster length of 5100' to meet FAA design standards.
- Cracks and voids still remain in the runway structural section, which created problems in the temporary runway surface during the spring thaw.
- The existing temporary airport configuration includes a 155' long by 420' wide taxiway connection between the runway and apron approximately midfield. The existing taxiway length does not provide sufficient separation for the parking apron.
- The existing 390' x 720' apron sustained considerable pavement damage (cracking) during the earthquake and has not been repaired.

- The existing runway object free area (OFA) width of 600' falls short of Federal Aviation Administration (FAA) standards for a B-III airport. OFAs are defined in FAA Advisory Circular 150/5300-13. The OFA needs to be expanded to meet B-III airport standards.
- Trees penetrate the civil imaginary surfaces as defined by 14 CFR Part 77 (Federal Aviation Regulation (FAR)) on the north and south side of the runway. Civil imaginary surfaces are areas of air space with calculated boundaries that extend upward and outward from the runway.
- The November 2002 earthquake damaged the Runway End Identifier Lights (REILs) and Visual Approach Slope Indicators (VASIs). Temporary repairs restored operation of the Runway 04 VASI.
- A 1300' segment of Northway Road, adjacent to the former FAA housing, existing Flight Service Station (FSS), and Runway 04, passes too close to the existing and proposed runway. Vehicles traveling on this road may penetrate the civil imaginary surfaces. FAR Part 77 requires 15 feet of clearance between a public road surface and airport imaginary surfaces. Clearance over Northway Road is as little as 9 feet. This deficiency requires correction.

Table 1: Northway Airfield Design Standards

	FAA Requirements	
Airport Feature	**Runway # 04/22 (Temporary)**	**B-III (Repaired)**
Runway Length	3,304 ft	5,100 ft
Runway Width	100 ft	100 ft
Runway Safety Area (RSA) Width	300 ft	300 ft
RSA Length (beyond runway threshold)	600+ ft	600 ft
Runway OFA Width	600 ft	800 ft
Taxiway Width	N/A	50 ft
Taxiway Safety Area Width	N/A	118 ft
Taxiway OFA Width	N/A	186 ft
Apron Offset From Runway	200 ft	400 ft

Figure 4: Existing Conditions

2 PROPOSED ACTION

The proposed action would reconstruct the airport providing permanent operational surfaces and upgrade the airport to meet current federal regulations and FAA design standards. This project would:

- Rehabilitate and repave a 5100' x 100' runway with asphalt concrete and raise the runway grade about 3 feet (Figure 6)
- Reconstruct the taxiway and taxilane to meet FAA standards (Figure 7)
- Rehabilitate and realign apron areas to meet current FAA standards (Figure 7)
- Relocate the apron fueling station north of the proposed apron fence (Figure 7)
- Rehabilitate the 6300' x 300' RSA centered about the runway (Figure 6)
- Reclaim all existing operational surfaces and clear the OFA of existing obstructions (Figure 6)
- Rehabilitate/relocate existing utilities
- Replace airfield lighting
- Reconstruct and realign approximately 4300' x 28' of the Northway Road (Figure 11)
- Install about 1,300 linear feet of 8-foot tall chain link fence topped with about 12 vertical inches of barbed wire to separate lease lots from the apron (Figure 9)
- Clear about 108 acres of vegetation from around the runway as identified by FAA Advisory Circular 150/5300-13 and required by FAR Part 77 (Figures 8 and 9).
- Expand the borrow pit to obtain fill material for this project

The proposed construction period for this project is May through September. The existing Northway Road would be used to transport material during construction (Figure 7). If construction does take place while school is in session, DOT&PF could limit hauling of material to non-school hours to mitigate construction noise impacts. Local government public nuisance ordinances normally limit hours of construction activity. Northway Village, Northway Junction, and Northway are unincorporated with no city or borough officials. The local public may request construction limitations during the public comment period for this EA to be adopted by DOT&PF and stated in the construction contract for this project.

3 ALTERNATIVES

3.1 Alternatives Considered but not Carried Forward

3.1.1 Repair Facilities to Pre-Disaster Condition

DOT&PF considered the alternative of repairing the runway to pre-disaster condition by rehabilitating the runway to 5100' x 100'. This alternative would repave the apron and runway and repair airport lighting. This alternative would not meet the purpose and need of this project for upgrading the Northway Airport and Northway Road to meet current federal regulations and FAA design standards. Therefore, this is not a viable alternative and is not carried forward in this EA.

3.1.2 Airport Relocation

During initial project design and planning, DOT&PF briefly considered relocating the entire airport. Airport relocation was dismissed because it is not economically feasible, and it would not minimize impacts to the local environment.

3.1.3 Upgrade and Use Nearest Airport

DOT&PF also considered upgrading and using the Tok airport. This alternative would not meet the need for this project, which is to provide airport facilities in the eastern interior portion of Alaska to accommodate commercial and general aviation, fire fighting, medevac services, and U.S. Customs. Further, the need is that the airport facilities must meet current federal, local, and state regulations and FAA design standards. Tok is a 1.5-hour drive from Northway. There is no pubic transportation available in Northway to access Tok. The runway at Tok (#13/31) is a gravel strip 1690' in length, over 3400' shorter than what is proposed at Northway. This strip is not maintained in the winter. This alternative would cause negative health, safety, access, and economic impacts to Northway, Northway Village, and Northway Junction.

3.2 No Action Alternative

The No Action Alternative would not provide the necessary permanent upgrades and improvements to ORT and the Northway Road. Runway cracks and voids missed during temporary repairs are creating runway problems that would continue to deteriorate. Runway 04/22 would not meet length requirements for an ARC-BIII airport. FAR Part 77 obstructions, objects within the OFA, and the existing Northway Road adjacent to the runway would continue

to create safety concerns. However, this alternative is carried throughout the document as a viable alternative per National Environmental Policy Act (NEPA) procedures.

3.3 Action Alternative (Proposed Action)

The Proposed Action would restore the operational use of the runway, safety area, taxiway/taxilane and apron, and would realign and rehabilitate the airport access road (Figure 5). Safety improvements would include rehabilitating the RSA, removing FAR Part 77 surface obstructions, and installing security fencing. New airfield lighting would also be installed.

The Proposed Action can be grouped into the following components:

- Runway Rehabilitation
- Taxiway/Taxilane Rehabilitation
- Apron Rehabilitation
- Safety Improvements
- Airport Lighting and Navigational Aids
- Northway Road Realignment and Construction of New Northway Road

Table 2 describes some required components of the Proposed Action.

Table 2: Project Summary Matrix

Project Component	Clearing (SY)	Deep Base Gravel Fill (CY)	Borrow Embankment (CY)	Sub-Base (CY)	Base Course (CY)	Asphalt (CY)	New Pavement Cover[1] (SY)	New Fence (LF)
Runway Rehabilitiation	None	NI[2]	NI	140,000	35,000	5,100	0	None
Taxiway/Taxilane Rehabilitation	None	NI	NI	18,000	5,000	1,600	0	None
Apron Rehabilitiation	None	NI	NI	16,00	4,000	2,000	21,000	None
Safety Improvements	522,720	None	None	None	None	None	None	1,300
Northway Road Realignment	52,000	None	11,110	6,000	1,600	670	13,400	None
Connector Road	None	None	990	500	200	60	1,300	None
Total	**574,720**	**NI**	**12,100**	**180,500**	**45,800**	**9,430**	**35,700**	**1,300**

Abbreviations: SY = Square Yards; CY = Cubic Yards; LF = Linear Feet; NI = Not Identified
[1]New Pavement Cover accounts for areas that would be paved by this project that were not previously paved.
[2]NI represents quantities Not Identified during preliminary design. NI quantities would be determined after compaction activities.

Figure 5: Project Layout Plan

Table 2 makes the following assumptions: The asphalt batch plant would be set up at the gravel pit. All material would be transported from the existing gravel pit north of Northway Junction. If additional material were required for this project, the contractor would be required to obtain permits for the new material source. All material would be hauled in truck and trailer combinations, 20 CY per load. The round trip time to load, haul, dump, and return material is 30 minutes. It would take a loader two minutes to load a truck and trailer, which equals 30 truck trips per hour. These calculations assume there would be no interference from aircraft at the airport. During construction, small, Group I, (typical single engine general aviation aircraft) will use the ski strip adjacent the runway, but the airport will be closed for larger aircraft. Larger aircraft would be required to use the nearest available airport. Ski strip preparations would require clearing for approaches. Ski strip clearing quantities are included in Table 2 Safety Improvements.

Assuming 10-hour workdays, it would take about 48 days of operation (14,000 trips) at 30 truck trips per hour to haul the 280,000 CY required for this project. It may be concluded that about 15 trucks would be in operation at all times during work hours, requiring about 50 to 75 workers to drive, dump, flag, operate equipment, control dust, inspect, and manage operations. It is assumed that some construction workers would come from outside Northway and hauling activities may impact Northway Road (See Section 4.10).

3.3.1 Runway Rehabilitation

Prior to the November 3, 2002 earthquake, the runway provided a 5100’ x 100’ landing surface, which complied with FAA design standards. The existing temporary runway on Northway Airport (Runway 04/22) provides a 3304’ x 100’ landing surface. The Proposed Action would lengthen the runway to 5100’ x 100’ to match the length of usable runway prior to the earthquake (Figure 6).

The shortened runway used for current operations occupies the western end of a 7500’ + long embankment, with the threshold for Runway 04 offset about 992’ from the west end. The proposed threshold for Runway 04 would begin about 600’ from the west end of the embankment with the runway extending approximately 1400’ beyond the existing threshold for Runway 22. The runway grade would be increased. In accordance with the Flood Study (Appendix B) that

was completed for this project, the east end of the runway embankment would be raised about 3 feet to protect the surface from overtopping during high magnitude flood events.

Runway reconstruction would include 24" of subbase under 6" of crushed aggregate base course (CABC) under 3" of asphalt concrete (AC) pavement. Runway construction would require about 140,000 CY of subbase, 35,000 CY of CABC, and 4,750 CY of AC. Fill material would come from the existing private gravel pit north of the Alaska Highway at Northway Junction, approximately 7 miles north of the airport. The contractor would utilize cold planing to reuse existing runway asphalt as construction material. Borrow embankment would be placed as needed under the subbase layer to raise the grade to the design level after dynamic compaction is complete. This would fill cracks and remove buckling caused by the November 2002 earthquake, and provide an adequate pavement structure for anticipated aircraft. Additional earthquake mitigation measures for the runway may include deep base gravel fill under the runway, wick drains to relieve pore pressure, a geogrid installation under the runway to add strength (vibro-replacement stone columns), or dynamic compaction.

A draft geotechnical study performed by Shannon & Wilson, Inc., found dynamic compaction would be the least expensive option to improve site soils and mitigate the liquefaction hazard from the November 3, 2002 earthquake (2005). During dynamic compaction, a large weight repeatedly hits the soil to compact and make the soil denser. The contractor would be responsible for dynamic compaction equipment and procedures. The contractor would repeat passes, adjusting the weight, drop-height, and grid spacing to make the soil denser from the maximum required depth to the ground surface. Earthquake mitigation measures would be determined during the next phase of this project.

3.3.2 Taxiway/Taxilane Rehabilitation

The Proposed Action would redesign the airport to include two 220' long by 50' wide taxiways from the runway. A taxilane would extend along the southern edge of the parking apron, offset from the runway by 300'. A taxiway would run perpendicular between the runway and each end of the taxilane. The new taxiways would be constructed of 3" of AC pavement over 6" of CABC over 24" of subbase. The taxiway safety area (TSA) would be 118' wide (Figure 7).

3.3.3 Apron Rehabilitation

The apron would be set back to meet current federal regulations and FAA design standards for aircraft parking setback from the runway and would provide a 280,000 square foot apron and aviation support area (Figure 7). Space for aircraft fueling, itinerant and transport aircraft, and tie-downs for small general aviation aircraft would be provided. In addition, 25 automobile parking spaces would be constructed north of the aircraft operations area to replace the existing, smaller parking area adjacent to the Northway Lodge (Figure 7). Portions of the existing apron that overlap the location of the new apron would be rehabilitated by removal of the AC pavement, graded to match adjacent pavement, and reconstructed with 3" of AC Pavement over 6" of CABC. Portions of the apron that are expanded beyond the limits of the existing apron would be constructed with 3" of AC pavement over 6" of CABC over 24" of subbase.

Trees located on the existing apron within the runway or taxiway OFAs would be removed. The fuel dispensing point on the existing apron is in conflict with the new apron and taxiway/taxilane layout. The fuel pumps and piping would be relocated north of the new apron limits, on the north side of the proposed apron fence (Figure 7). Gates would be placed in the fence at the fuel dispensing location to allow access to the fuel-dispensing unit for fueling activities.

Figure 6: Runway Rehabilitation

Figure 7: Taxiway/Apron Rehabilitation

3.3.4 Safety Improvements

The OFA would be widened to 800' to meet FAA design standards (Figure 8 and 9). Other improvements would provide taxiways and a taxilane meeting requirements of FAA Advisory Circular 150/5300-13 for a parallel taxilane offset of 300' from the runway, a taxiway safety area width of 118', and a taxiway OFA width of 186'.

The Proposed Action would also clear about 108 acres of trees currently encroaching the FAR Part 77 transitional surface on the north and south side of the runway and remove obstructions within the OFA. The Construction Contract for this project would require the Contractor to obtain required permits for waste disposal. The Construction Contract would require the Contractor to deposit debris from vegetation at the material site for reclamation, if permitted by the Alaska Department of Environmental Conservation (ADEC).

The proposed operational surface dimensions are less than those originally constructed by the military. The areas of these old surfaces, which are within the proposed safety area but outside the paved runway and shoulders, would be reconstructed with subbase and CABC to correct earthquake damage. The areas of these surfaces outside the new safety area would be reclaimed so as to be free of defects and to drain properly. Section 4.3 elaborates on hydrology and drainage issues at ORT.

FAA Advisory Circular 150/5360-13 provides guidance for preventing access by unauthorized persons and vehicles to an airport's Air Operations Area (AOA), which is that portion of an airport designed and used for landing, taking off, or surface maneuvering of airplanes. About 1,300 LF of 8-foot chainlink fence would be installed to limit access to the apron from the Northway Road, airport parking area, and the Northway Lodge. Fencing would separate the proposed apron from existing lease lots.

Figure 8: Safety Improvements (West End)

Figure 9: Safety Improvements (East End)

3.3.5 Airport Lighting and Navigational Aids

Existing temporary repair lighting would be removed and a new lighting system would be installed. Taxiway lighting would be included along both sides of the taxiways connecting the apron and runway and along the south side of the apron taxilane.

The electrical equipment building would be relocated on a new foundation to the west end of the new apron as shown on the ALP. The lighted wind cone and segmented circle near the existing electrical equipment building would be replaced with a new lighted wind cone and segmented circle near the west end of the new apron. The unlighted wind cone at the east end of the runway would be removed and replaced with a lighted wind cone near the same location. The rotating beacon would be relocated to the west end of the new apron reusing the existing tilt-down tower on a new foundation. This installation would be placed adjacent to the relocated electrical equipment. FAA may choose to repair the existing VASIs and REILs. If Precision Approach Path Indicators (PAPIs) are available, FAA may provide the funding and equipment to replace VASIs with PAPIs and install new REILs (Figure 10).

The weatherhead that provides electrical service to the electrical equipment building would be raised 10 feet above grade to meet the National Electrical Code 230.24(B)(1). Relocating the building would require changing the electrical service. Two power poles supporting the existing service would be removed to avoid conflict with the new apron and new service would be requested from the local utility company. One new pole would likely be required to provide service to the new electrical equipment building location.

Permanent repairs may provide new REILs for both ends of the runway and may replace VASIs with PAPIs for both approaches if FAA provides funding and equipment. Otherwise, existing equipment would be reused. Existing electrical services would be reused for the new FAA installations.

Figure 10: Proposed NAVAIDs

3.3.6 Northway Road Construction and Realignment

The Proposed Action would construct a new segment of Northway Road to replace the 1300' segment that passes too close to the existing and proposed runway. The proposed new Northway Road alignment departs from the existing alignment north of the Northway Lodge and extends west and north of the existing road alignment, north of Sewer Lake (Figure 11). Proposed road improvements include the construction of a north-south connector road between the preferred road option and the existing Northway Road west of the apron to allow access to existing lease lots. The existing Northway Road would remain in its current location and would be blocked off south of the alignment match location for the new Northway Road to eliminate vehicle access for travelers between Northway Village and the airport.

The proposed new Northway Road route would avoid or minimize wetland impacts. However, a USACE Section 404 permit will be required for unavoidable impacts. Hazardous materials, including potential contamination within the proposed road Right of Way for the new road, are discussed further in Section 4.13. New Road construction would include clearing, embankment, and placing subbase and CABC material for pavement structure. About 12,100 CY of embankment material, 6,500 CY of subbase, 1,800 CY of CABC, and 730 CY of AC would be required for the new Northway Road and connector road. The road would be surfaced with a 2" lift of AC pavement and crowned to direct stormwater runoff to surrounding soils for natural infiltration. New Northway Road construction would include flood-equalizing culverts.

Road Option A – North Option (Preferred Option)

This option departs from the existing road north of the apron and extends west on the north side of existing lease lots and Sewer Lake. The proposed road would match the existing alignment west of Sewer Lake. This option would minimize lease lot impacts and move the road away from Runway 04, outside the OFA.

Road Option B – South Option (Dismissed)

This route would generally parallel the runway alignment between lease lots north of the existing road and the south edge of Sewer Lake. This route would require lease lot acquisition. Option B would encounter potential contamination and impact wetlands south of Sewer Lake. Option B neither avoids nor minimizes lease lot impacts nor avoids wetland impacts. Option B does not meet the need of this project. This option is therefore dismissed from further consideration in this EA.

Figure 11: Proposed Northway Road Improvements

3.3.7 Construction Considerations

The Proposed Action includes factors relevant for construction. These factors include sources of material and material disposal sites, haul routes, stockpile areas, and staging areas that would minimize disruption of aircraft operations while providing the contractor the most latitude for planning construction operations. This EA assumes that construction would occur at the discretion of the Contractor, and may occur on a 24-hour per day construction schedule, unless otherwise restricted by local agencies.

Material for this project could be mined from the existing material site near Northway Junction (Figure 1). Additional fill material would come from rehabilitation of airport facilities, including reclaimed asphalt and fill material. The Northway Road, existing access roads, and the apron would be used for the haul route for this project (Figure 7). The haul route would pass by the Northway School. School would not be in session during the summer months when construction is anticipated to take place. The construction contract for this project would outline specific haul route regulations. The Contractor would be required to submit a haul plan to DOT&PF for approval. Local government public nuisance ordinances normally limit hours of construction activity. Northway Village, Northway Junction, and Northway are unincorporated with no city or borough officials. The local public may request construction limitations during the public comment period for this EA to be adopted by DOT&PF and stated in the construction contract for this project. Potential haul route regulations stipulated by the local public may include:

- Limit material hauling to non-school hours
- Limit hauling to the hours between 7:00 AM and 7:00 PM, unless otherwise authorized and permitted

Equipment and material for this project may be staged on the existing apron and open area east of Taxiway B. A portion of the apron would be required to remain open and accessible for aircraft operations during construction. Solid waste from tree removal may be stockpiled onsite or disposed of at a permitted site. The contractor would establish and retain responsibility of any established disposal site. The following construction actions would be included in this project:

Excavation, fill, and asphalt reuse: Excavation for fill material would occur at the material site north of Northway Junction. Fill material would be placed into construction areas and graded. Cold planing techniques would be utilized to reuse runway asphalt material.

Compaction: Dynamic compaction, described in Section 3.2, would take place during runway and apron construction. The proposed Northway Road would be compacted using standard road construction methods.

Dust Control: The Contractor would be required to submit a dust control plan to the Project Engineer. To minimize dust from construction activities, DOT&PF would require the contractor to implement one or more of the following Best Management Practices (BMPs):

- Water prior to excavation
- Wind fencing and other erosion control techniques
- Traffic and vehicle speed reductions at the site
- Stabilize or cover material stockpiles and sources

Fueling: Fueling activities for construction equipment would occur within the equipment staging area, at least 100 feet from surface water.

Drainage system and runoff control: All proposed surfaces would be constructed with crowns to establish positive drainage. Runoff control measures, such as silt fences and straw bale barriers, would be used. Specific water quality considerations are addressed in Section 4.3.

Traffic control: The contractor would be bound by contract specification to develop a traffic control pattern (TCP). The TCP would address traffic detours, altered traffic controls, and local access affected by construction.

Noise: Construction machinery would create temporary increases in local noise due to construction activity. Possible noise mitigation measures include:

- Limiting construction activity to non-sleeping hours
- Staging construction machinery away from residential locations
- Limiting equipment idling
- Utilizing properly installed, effective muffler systems on all machinery
- Limiting hauling of material along Northway Road to non-school hours while school is in session

4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 Geology, Morphology, and Soils

4.1.1 Affected Environment

The November 3, 2002 earthquake caused structural damage throughout Eastern Interior Alaska. Figure 3 shows the epicenter and intensity grade for this earthquake. Impacts to ORT are described in Sections 1.3 and 3.3. The 2002 earthquake originated in the Susitna Glacier Thrust Fault, a strand of the Denali Fault System (DFS), and then transferred into the main arm of the DFS and on to the Totschunda fault. Fault rupture lasted approximately 100 seconds, but distal affects lasted for days (Alaska Earthquake Information Center, 2002). The hardest hit population centers were Northway and Mentasta, on the eastern end of the rupture zone. This earthquake was Alaska's largest in 30 years and the largest inland earthquake to hit North America in nearly 150 years. It was the largest earthquake ever recorded in Interior Alaska.

Earthquakes are not predictable. However, it is widely known multiple large fault systems and rupture zones underlay Alaska. Since there are portions of the DFS that did not rupture in the 2002 event, these may someday produce large earthquakes in Interior Alaska.

ORT is located in the Northway-Tanacross Lowland physiographic division of Alaska. The subsurface sediments underneath the Northway Airport and vicinity are made of silts, sands, and gravels deposited by glacial and stream activity. More recent deposits of silt over the gravel layers contain high levels of organic material, most likely wind-blown deposits. Above the silt and gravel layers, clear beds and lenses of ice formed. A sand dune lies beneath the northeastern end of the airport runway. The southwestern end is located in a former Nabesna River drainage channel (Earthscape, 2004).

Soils in the vicinity of the airport consist of interbedded alluvial sand and gravelly sands deposited by rivers that emanate from the Alaska Range. Silty over bank deposits cover interbedded alluvial sand and gravel; the thickness of alluvial sediments overlying bedrock in the vicinity of the project is not known (Shannon & Wilson, May 2005). The terrain at Northway Airport is nearly level.

Soils encountered during 2005 borings at the runway, taxiway, apron area, and proposed Northway Road alignment were relatively clean, loose to medium dense, fine to medium sand and gravelly sand commonly capped by a highly variable surficial zone of siltier soils consisting of interbedded silty sand, sandy silt, and silt. Where present, the surficial layer of siltier soils ranged in thickness from 4.5 to 10.5 feet (Shannon and Wilson, May 2005).

The proposed material site for this project (DOT&PF Material Site 621-1-164-2) is a rock quarry in a hillside at the junction of the Alaska Highway and Northway Road, about six miles from ORT. The subsurface rights to this site are privately owned. The hillside surrounding the rock pit is forested with birch and aspen. Specific soil information for the material site is documented in the report: *Draft Material Site Investigation, Northway Airport Improvements, Northway, Alaska* (Shannon and Wilson, July 2005).

4.1.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, project area soils would remain in post earthquake conditions. Post-earthquake soil conditions, with areas of liquefaction, would continue to present potential hazards to usable surfaces in the event of future seismic events. Mitigation measures that may improve structural integrity and stabilize soils, such as modifying pavement sections with geofabric, geogrid, or wick drains, and dynamic compaction, would not occur.

Action Alternative

The Farmland Protection Policy Act (P.L. 97-98, Sec. 1539-1549; 7 U.S. C. 4201, et seq.) was enacted to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions. The NRCS has determined there are no prime or unique farmlands within the State of Alaska (NRCS official website, April 2005).

The Proposed Action would include earthquake mitigation measures such as using geofabric or geodgrid under the runway to add strength, wick drains to relieve pore pressure, or dynamic compaction to stabilize soils. Earthquake mitigation measures may improve soil conditions for airport operations.

The contractor would use a hydro-axe to clear vegetation. Vegetation removal for the proposed Northway Road realignment would not require grubbing activities. Vegetation would be reduced to chip size and left as organic material on the vegetative mat. Northway Road would be constructed on top of the vegetative mat and chipped organic material.

BMPs, such as silt fences, would limit surface soil erosion and runoff. Clearing methods that substantially disturb the existing ground would not be allowed. Watering would be used to mitigate wind blown soils from construction activities. The construction contract would require the Contractor to obtain a water use permit from the Alaska Department of Natural Resources (DNR). There is no public water system in Northway that might provide water to the Contractor. The most likely sources of water for watering activities are Nabesna Slough, Moose Creek, or one of the lakes north of ORT (Hueduec Lake, Sewer Lake, or Ham Lake).

4.2 Climate and Air Quality

4.2.1 Affected Environment

The project area lies in the Continental climate zone. Northway has long, cold winters and relatively warm summers. Temperatures range from –27 to 70 degrees Fahrenheit. Average precipitation is about 10 inches per year, and snowfall is 30 inches annually (Alaska Community Database, Website). The Western Regional Climate Center lists the monthly rainfall data averaged between September 1, 1949 and March 31, 2005 (See Table 3).

Table 3: Period of Monthly Record Rainfall Summary, Northway, AK (1945-2005)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Total Precipitation (in.)	0.28	0.24	0.18	0.20	0.96	1.88	2.41	1.43	0.98	0.52	0.33	0.29	9.70

Source: Western Region Climate Center

Table 3 shows the period of heaviest rainfall is during the summer months. Rain would help maintain dust control during construction activities.

Prevailing wind data gathered between 1992 and 2002 shows the prevailing wind direction at Northway is west-northwest (WNW). Prevailing winds blow from the WNW in all months except February, when the prevailing wind is East (E). Tables 4A and 4B show prevailing winds.

Table 4A: Prevailing Wind Direction, January-June, Northway, AK (1992-2002)

	Jan	Feb	Mar	Apr	May	Jun	Semi-Annual
Wind Direction	WNW	E	WNW	WNW	WNW	WNW	WNW

Source: Western Region Climate Center

Table 4B: Prevailing Wind Direction, July-December, Northway, AK (1992-2002)

	Jul	Aug	Sep	Oct	Nov	Dec	Semi-Annual
Wind Direction	WNW	WNW	WNW	WNW	WNW	WNW	WNW

Source: Western Region Climate Center

Based on prevailing wind direction information, it can be expected that dust from construction activities may be directed to the west-northwest by winds. During 1992-2002, the average wind speed in Northway was 4.65 miles per hour (mph). Table 5 shows the ten-year trend in wind speed.

Table 5: Annual Wind Speed, Northway, AK (1992-2002)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	**Avg.**
Wind Speed (mph)	4.70	4.92	4.92	4.25	4.47	4.47	3.80	4.03	3.13	4.25	3.58	4.65

Source: Alaska Energy Authority (AEA), Weather Station Wind Resource Summary for Northway, AK, Prepared 8/3/2005

May, June, and July are the windiest months in Northway. AEA monthly data from 1973-2004 was averaged and found speeds averaging 3.81 mph for May through September, the proposed construction period. Northway Airport is in compliance with the National Ambient Air Quality Standards (NAAQS).

4.2.2 Environmental Consequences

No Action Alternative

This alternative would have no impact on air quality.

Action Alternative

Construction would occur from May to September. Climate during this time period is typical for the region, with temperatures ranging from 50 to 70 degrees Fahrenheit; peak high temperatures occur in late July, and Northway receives about 1.53 inches of precipitation per month during the proposed construction period (Western Region Climate Center). Climate influencing factors, such as exhaust emissions, would be short-term in nature and are not expected to impact climate.

The Proposed Action would have a minor, short-term impact on air quality during construction. During the construction period, equipment use would result in temporary increases in exhaust emissions. Ground disturbing activities would temporarily add particulate dust matter to the air during construction. Technical studies to determine the amount of soil erosion from wind using the wind erosion equation, or dust particle assessments, were not performed for this project, because it is expected that ground disturbing activities would require dust control, but dust impacts would be less than significant. Typically, winds of 5-10 mph (moderate breezes) are required to lift and carry dust particles further than three feet (Earth Sciences, 2005). Assuming average particle size and available wind data, local dust activity is expected, but large wind/dust events are not expected. Dust control measures, most likely watering, would be used to control dust from construction activities. The contractor would be required to acquire Alaska Department of Environmental Conservation (ADEC) permits for watering activities. Additional dust control measures may include:

- Wind fencing and other erosion control techniques
- Traffic and vehicle speed reductions at the site
- Stabilizing or covering material stockpiles and sources

The Proposed Action is not expected to create long-term air quality impacts. The proposed runway, taxiway, apron facilities, and Northway Road would be paved and emissions from construction equipment would cease after construction is completed. This project is not expected to increase daily operations at ORT.

4.3 Hydrology and Water Quality

4.3.1 Affected Environment

The Flood Study performed for this project discusses the hydrologic history of Northway (Appendix B). Northway lies within the eastern, upper portion of the Tanana River basin in Interior Alaska. The Tanana River is formed by the confluence of the Nabesna and Chisana Rivers near Northway Junction, approximately 530 river miles upstream from the Tanana's confluence with the Yukon River. Both the Nabesna and Chisana Rivers drain generally northward from rugged, heavily glaciated basins in the Wrangell Mountains (USKH, Inc. (USKH), 2005). These two rivers share similar characteristics: they are swift and steep in their upper reaches; carry large, glacially-derived sediment loads; possess a braided channel pattern over large portions of their lengths; and flow through areas of low-lying, poorly-drained, permafrost-rich muskeg in the lower reaches of their basins (USKH, 2005).

Moose Creek is a Chisana River tributary that begins in the Black Hills approximately 20 miles south of Northway in the Tetlin National Wildlife Refuge. The stream flows to the north along the east end of the Northway Airport runway. A portion of Moose Creek was relocated and pushed eastward from its original path during original runway construction.

Drainage from the airport runs toward both Moose Creek and the Nabesna Slough. As discussed in Section 4.2.2, ORT receives about 1.5 inches of rain per month from May to September, the proposed construction period. Northway's climate is arid, and there is minimal storm water and snowmelt. The runway drainage system (Figure 2) was observed during a June 2005 site visit. The drainage, as observed, sloped gradually down gradient toward Nabesna Slough to the west. The drainage was dry, as were open meadow bog areas adjacent to the drainage. Local permafrost affects infiltration and evaporation rates are most likely high. Pooling occurs on the northwest portion of the apron and west of the airport lodge.

Drinking water for ORT area buildings comes from wells. Wells are located near the FAA service station, fire hall, former dispensary, and Northway Lodge.

4.3.2 Environmental Consequences

No Action Alternative

Continued deterioration of the runway may impede runway drainage. This alternative would not improve the pooling that occurs on the northwest portion of the apron and west of the airport lodge.

Action Alternative

The Proposed Action would have a less than significant impact on water quality. Removal of airspace obstructions and Northway Road construction may temporarily impact water quality through erosion sediment to the Nabesna Slough, Moose Creek and Sewer Lake. Fill into wetlands is discussed in Section 4.4. DOT&PF would prepare an Erosion Sedimentation Control Plan (ESCP) in compliance with the National Pollutant Discharge Elimination System (NPDES) to minimize erosion and sedimentation from construction. The contractor would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and to implement BMPs. Alaska Construction General Permit AKR100000 would cover storm water discharges from this project.

ORT does not currently have an NPDES Multi-Sector General Permit. By 40 CFR 122.26, ORT is an industrial facility that requires a multi-sector general permit. DOT&PF would coordinate with ADEC and the Environmental Protection Agency (EPA) to obtain the permit, or "No exposure" exclusion status.

A drainage channel parallels the runway to the south and slopes west toward Nabesna Slough (Figure 2). Northway receives about 9 inches of rain and 30 inches of snow per year, causing minimal storm water. Storm water south of the runway centerline flows south into low-lying areas. Storm water north of the runway flows north and pools in seasonal ponding areas. The Proposed Action would maintain drainage patterns to the south of the runway centerline. The Proposed Action would improve drainage to the north and eliminate ponding on usable airport surfaces. The proposed Northway Road would be constructed with a center crown to facilitate drainage to roadside soils for natural infiltration. This project does not propose new stormwater treatment measures. Existing stormwater handling measures (natural infiltration) would continue to sufficiently handle the 9.7 approximate inches of rain Northway receives each year. Airport construction would provide no net increase of stormwater. The new Northway Road would increase storm water minimally, as new road surface areas would replace existing Northway Road. The Proposed Action would not significantly increase storm water pollution sources.

During construction, the Contractor would limit the disturbed/exposed areas to those necessary for project construction, stabilize all fill areas and provide and maintain temporary erosion and sediment control measures. The ESCP, in compliance with NPDES and the Alaska Construction General Permit AKR1000000, along with BMPs, would mitigate water quality impacts from construction activities. DOT&PF recommends BMPs for water quality control in the DOT&PF SWPPP Guide (DOT&PF, 2005). BMPs that may be used for this project include:

- Silt fences
- Straw bale barriers
- Stormwater conveyance channels
- Brush barriers

4.4 Floodplains and Wetlands

4.4.1 Affected Environment

Executive Order (EO) 11988 requires federal agencies to take action to minimize occupancy and modification of the floodplain. FEMA's regulations for complying with EO 11988 are described in 44 CFR Part 9. No FEMA flood mapping exists for Northway since the community is not a participant in the National Flood Insurance Program (NFIP). Therefore, Northway is not in a designated floodplain.

The Flood Study determined Northway is affected by flooding from the Chisana River, Moose Creek, and the Nabesna River (Appendix B). Conclusions of the Flood Study are limited by the absence of hydraulic analyses from which predictions can be made about the extent and elevation of future flood events at the airport.

Individual historical flood studies provide little Northway flood hazard information. The U.S. Department of Agriculture Soil Conservation Service (SCS) produced a floodplain management study for the upper Tanana River region in 1984 with mapping that shows the Northway Airport and Northway Village as completely inundated during a 100-year flood event, with the floodwaters of the Nabesna and Chisana rivers intersecting to form an inundated area more than 15 miles wide near the airport (USKH, 2005). The 1984 SCS study noted that Northway is

located in a high flood hazard area. The U. S. Army Corps of Engineers (USACE) noted in a 1979 community flood hazard data summary that the Northway community flood hazard is rated as high (USKH, 2005).

The Chisana River most commonly has flood occurrences in mid-summer as a result of prolonged periods of warm weather followed by heavy rains. Flooding at the Northway Airport as a result of high water on Moose Creek is related to flow conditions on the Chisana River (USKH, 2005).

Moose Creek floods in spring and summer. Spring floods on Moose Creek are a result of snowmelt flowing on top of winter aufeis accumulations in the channel, and can spill into the low area on the north side of the east end of the ORT runway (USKH, 2005). Summer floods, caused when high water on the Chisana River causes the stream to back up from the confluence approximately seven stream miles downstream from the airport, are larger than spring floods (USKH, 2005).

Like the Chisana River, the Nabesna River most commonly floods in mid-summer because of prolonged periods of warm weather followed by heavy rains. It is unknown if conditions that cause flooding on the Chisana River result in concurrent floods on the Nabesna River, but it is logical to assume that large flood events on the Chisana would create some form of high water event on the Nabesna (USKH, 2005). The Nabesna River has the potential for outburst floods from glacier-damned lake releases along the Nabesna Glacier. Flooding of the Nabesna River in the 1940's inundated the surface of the ORT runway with no more than two feet of water, and no flood events of comparable magnitude have occurred in Northway since then (USKH, 2005). There is no definitive information about the width or extent of either the Nabesna or Chisana River floodplains for any flood magnitude. During floods that have overtopped the runway, the entire airport could probably be considered to have been in the Nabesna River floodplain, with un-flooded portions of the airport acting like islands completely surrounded by floodwater. Another complicating factor is that when the Nabesna is having a big flood, the Chisana may also be having a big flood. At least portions of the runway embankment can be considered to be in the floodplain of either river during huge floods. For a big flood on both rivers at the same time, the floodplains would intersect.

Executive Order (EO) 11990 requires federal agencies to take action to minimize impacts to wetlands. FEMA's regulations for complying with EO 11990 are outlined in 44 CFR Part 9. Documentation for EO 11990 (Wetlands Checklist) is located in Appendix E.

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory map identifies the ORT runway and surrounding facilities located in uplands. Sewer (Sewage) Lake is identified as a PAB-3H wetland, a palustrine wetland with aquatic bed and rooted vascular vegetation.

In October 2004, DOT&PF identified wetlands along the perimeter of Sewer Lake and in sections along the south side of Hudeuc Lake. They were identified as a lacustrine, littoral, unconsolidated shore, vegetated wetland. USKH performed additional wetland delineations of areas adjacent to the proposed Northway Road alignment north of Sewer Lake (Appendix C).

4.4.2 Environmental Consequences

No Action Alternative

The No Action alternative would not reduce runway flood potential. This alternative would maintain potential problems associated with flooding on the runway, such as surface deformation and loss of structural integrity including embankment erosion. The No Action alternative would not impact wetlands.

Action Alternative

The Proposed Action would raise the runway centerline about 3 feet above the average elevation of the lowest portion of the runway to protect the runway surface from overtopping during high magnitude, low frequency floods, in accordance with the flood study completed for this project. The 3-foot increase accounts for the 2 feet needed to raise the runway above the level of historically observed inundation, and provides one foot of freeboard. Freeboard accounts for floods of greater magnitude than those historically recorded in the 1940's and the possibility of flood events from the release of glacier dammed lakes along Nabesna Glacier.

Raising the runway grade would not significantly affect flood levels at the airport, and it would have minimal impact on the entire floodplain. The EO 11988 FEMA floodplain checklist for this project is located in Appendix E; it describes potential, negligible flood impacts. The floodplain is so vast at this location (about 12 miles wide) that flood level increases would be both negligible and not quantifiable because of the unprecedented, massive flood event required to top the

runway. The area south of the project would reasonably be expected to experience slightly higher flood levels as a result of the increased runway grade. The areas east and west of the project would reasonably be expected to experience slightly higher flood levels and flow velocities. The area downstream from the project would reasonably be expected to experience slightly lower flood levels and flow velocities.

The raised runway is not expected to produce any flow constrictions that would tend to concentrate flows at specific locations along the embankment, so erosion of the embankment from flood flows is highly unlikely (USKH, 2005). Floodwaters would carry suspended sediment and floating debris such as trees. If the runway were to be overtopped, which is an extremely unlikely occurrence, some sediment may have to be cleaned from the surface, and a few trees may need to be hauled off. For flows that do not overtop the runway, however, sediment and debris should not present problems.

Airport infrastructure and the community of Northway would not be negatively impacted by work within the flood zone during construction to the airport and Northway Road. Construction would take place during the flood season. The following floodplain conservation measures would be enacted:

- Halt construction activity and flood proof features and exposed material in the event of a pending or predicted flood
- Provide erosion control BMPs to permanently stabilize and secure exposed areas and fill as it is placed
- Locate equipment fueling and maintenance areas outside of the floodplain or close and secure the areas in the event of a flood
- Provide flood level equalizing culverts under/through the new Northway Road
- Provide the State of Alaska Floodplain Administrator with As-Built drawings and documentation showing the elevation of the finish grade of the runway, taxiway, taxilane, apron, and Northway Road and the location of several local bench marks

DOT&PF examined aligning the Northway Road to the south of Sewer Lake to minimize wetland impacts. Both Earthscape and USKH performed fieldwork to delineate wetlands in the areas proposed for the road realignment. A map compiled from the data is presented as Figure 12. A road alignment along the south side of Sewer Lake would impact less wetlands acreage than a

north alignment. However, a southern alignment would not minimize impacts to existing lease lots and potential contaminated soils. The preferred alignment identified on Figure 12 minimizes wetlands impacts for a northern route around Sewer Lake and minimizes lease lot impacts. However, a USACE Section 404 permit will be required for avoidable impacts to wetlands. Shifting the road further north would increase impacts to wetlands.

The proposed relocation for the Northway Road would require some quantities of fill to be placed into the wetlands around Sewer Lake. Preliminary wetland studies show the proposed Northway Airport Road would require about 2,250 CY of fill over 0.5 acres of wetlands. Typical mitigation for wetland impacts could include in-lieu fee payment for wetland impacts in the amount of $500/acre to the Alaska Wetlands Conservation Fund.

Figure 12: Wetland Impacts

4.5 Vegetation and Habitat

4.5.1 Affected Environment

The vegetation community for this portion of interior Alaska is boreal forest (Viereck et. Al 1992). Boreal forests are dominated by closed, open, and woodland evergreen forests of black and white spruce, with extensive areas of paper birch, aspen, and balsam poplar, extensive mosaics of shrub and herbaceous types including extensive areas of subarctic lowland sedge and sedge-moss bog meadows as well as willow, sweetgale, and graminoid bogs (Viereck et al 1992).

The project location has been significantly altered by human activity. However, it may still be classified as open spruce-balsam poplar woodland interspersed with open spruce-paper birch mixed forest and areas of dry and wet graminoid herbaceous communities (Earthscape 2004). The area of investigation for the Earthscape report and USKH wetland delineation report within and adjacent to the proposed road is consistent with the boreal forest vegetation type.

Specific areas of altered vegetation were noticeable at the former FAA Bulk Fuel Storage Site (Figure 13) and the former FAA garden site, north of the bulk fuel storage area. Upland plants such as woodland strawberry (*Fragaria vesca*), and fireweed (*Epilobium angustifolium*) were noticeable at this location. Willows (*Salix sp.*) are present on previously used runway surfaces that extend beyond the proposed RSA. South of the runway, white spruce (*Picea glauca*), paper birch (*Betula papyrifera*), willows (*Salix sp.*), blueberry (*Vaccinium sp.*), and grasses are present (USKH, Wetland Delineations Report).

Existing wetland and upland area vegetation may provide habitat for mammals and birds found on Tetlin National Wildlife Refuge and Upper Tanana Valley Mammal and Bird Lists (http://tetlin.fws.gov/pdf/Mammals_Checklist.pdf ; http://tetlin.fws.gov/pdf/bird_checklist.pdf). Paper birch, willows, and spruce trees within the proposed Northway Road alignment may provide roosting and nesting habitat for songbirds. Wetland delineators did not encounter nests in this area during fieldwork, and the local habitat is abundant and not specific to the area. Construction is not expected to impact waterfowl habitat in Sewer Lake. Wildlife is discussed further in Section 4.6.

4.5.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact vegetation and habitat at ORT.

Action Alternative

The Proposed Action would impact about 108 acres of upland habitat during vegetation obstruction removal and about 0.5 acres of wetlands. USKH did not observe wildlife nesting areas within clearing limits during the June 2005 site visit. Clearing would eliminate the potential for nesting within clearing limits. USKH did observe evidence of moose activity. During the winter, moose feed on shrub vegetation, including willows. Vegetation clearing around the airport would push moose feeding areas further away from the runway. This habitat area is not unique to the area, and feeding areas are prevalent in the vicinity.

The contractor would use approved methods for vegetation clearing during obstruction removal and Northway Road construction. Clearing specifics would be outlined in the construction contract. The contractor would most likely use a hydro-axe to clear vegetation within four inches of the forest floor. Hydro-axe activity would leave vegetation pieces smaller than four inches on the forest floor. Vegetation removal for the proposed Northway Road realignment would not require grubbing activities. Northway Road would be constructed on top of the vegetative mat and chipped organic material. All other project components would occur on previously developed airport surfaces. Mitigation for wetlands is discussed in Section 4.4.

4.6 Fish and Wildlife

4.6.1 Affected Environment

The Alaska Department of Fish & Game (ADF&G) Fish Distribution Database does not identify any catalogued anadromous fish streams in the project area. No essential fish habitat would be affected by this project (Larry Peltz, personal communication, 2005).

The Nabesna River, Nabesna Slough, and Moose Creek near ORT contain resident populations of burbot, whitefish (rough, broad, and humpback), long nosed suckers, grayling, and northern pike. Resident fish populations in local lakes vary depending on seasonal accessibility from river flooding (Fronty Parker, personal communication, 2005).

Local residents fish for grayling in the summer in Nabesna Slough, which is located off the west end of Runway 4. Ice fishing occurs in the winter for grayling in the Nabesna River. There is a summer fish camp for whitefish, grayling, and pike in Moose Creek, at the southeast end of Runway 22.

The Tetlin National Wildlife Refuge provides habitat for 143 breeding and 47 migrant bird species (USFWS, Tetlin website). The Northway-Tetlin range serves as a major migration corridor for birds entering or leaving interior Alaska.

There are 44 mammals known to occur in the Tetlin Refuge, including dall sheep at higher elevations, moose in and around plant communities, black and grizzly bear, wolves, and caribou. Moose concentrate in the airport vicinity during spring and summer; the Northway area is considered Alaska's most productive muskrat trapping location, and the airport vicinity is classified as high-density muskrat habitat (Earthscape, 2004). Fieldwork and other investigations did not reveal evidence of trapping along the proposed Northway Road alignment. Additional animals actively trapped in the greater Northway area include coyote, wolf, lynx, river otter, wolverine, and snowshoe hare (Personal Communication, Tess Faulise, ADF&G).

4.6.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact fish or wildlife. Human disturbance to the area would be reduced because of the lack of construction activity.

Action Alternative

The Proposed Action would not significantly impact fish or wildlife. Alterations to existing habitat are considered minor. Airport clearing would not extend beyond previously established clearing limits. Moose and muskrat habitat impacted by the Proposed Action is common and not unique to the affected area. Airport fencing would be limited to the north side of the runway and would not affect animal migration.

Potential nesting habitat would be removed to the extent of clearing limits. The amount of habitat proposed for vegetation clearing is a small percentage compared to available habitat in the area. The proposed action would not violate Public Law 95-616 or any other provision of the Migratory Bird Treaty Act. Vegetation within proposed clearing limits does not constitute an

ecosystem of special importance to migratory birds, as similar habitat is abundant in the region. None of the proposed lighting and navigational aids (NAVAIDs) systems would attract or impact migratory species.

4.7 Threatened and Endangered Species

4.7.1 Affected Environment

There are no threatened or endangered species in the project area according to the USFWS Threatened and Endangered Species list for Alaska (Threatened and Endangered Species website). The American peregrine falcon, whose migration corridor includes the Northway airport project area, was de-listed for the entire range of interior Alaska on August 25, 1999. Bald Eagles are currently protected under the Bald Eagle Protection Act of 1940 (Title 16 US Code 668-668c, 54 Stat. 250 as amended). USKH personnel did not observe any Bald Eagle nests in the project vicinity during site visits on December 9, 2004 and June 6-8, 2005.

4.7.2 Environmental Consequences

Neither the No Action nor the Proposed Action alternative would impact threatened or endangered species. No mitigation is required.

4.8 Special Land/Natural Resources

4.8.1 Affected Environment

Tetlin National Wildlife Refuge completely surrounds the Northway Airport project area. The Refuge has extensive wetlands and thousands of water bodies. The Black Hills bisect the refuge, with the Tetlin-Northway flats to the north and less continuous wetlands and potholes to the south (USFWS, Tetlin website). Fish and Wildlife specific to the refuge are discussed in Section 4.6.

4.8.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact the Tetlin National Wildlife Refuge.

Action Alternative

The Proposed Action would not impact Tetlin National Wildlife Refuge. All construction activities would occur within the 1,200 acres of airport property. Haul routes, disposal sites, and

other construction related activities would utilize existing roads and would not impact the refuge. No mitigation is required.

4.9 Historical and Cultural Resources

4.9.1 Affected Environment

The Alaska Heritage Resources Survey (AHRS) has ten listed sites within, or in close vicinity to, the Northway Airport project area. The USACE determined that sites 297-304 and 313 were ineligible for the National Registry. Table 6 summarizes the findings:

Table 6: AHRS Findings

AHRS #	Site Name and Description	Preservation Status
NAB-297	FAA Facility (Northway FAA). Includes 4 quarters buildings (NAB-298 to NAB-301), utility buildings (NAB302 and NAB-303), and generator building (NAB-304). Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, Alaska State Historic Preservation Office (SHPO) concurred 8/29/00
NAB-298	FAA Building 100. Quarters built in 1942, 2-story, 28' x 34' wood frame building. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-299	FAA Building 101. Quarters built in 1942, 2-story, 28' x 34' wood frame building. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-300	FAA Building 102. Quarters built in 1942, 2-story, 28' x 34' wood frame building. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-301	FAA Building 103. Quarters built in 1942, 2-story, 28' x 34' wood frame building. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-302	FAA Building 600. Utility built in 1942 as a utility building. Houses utilities and water treatment plant. Wood frame and sides sit on concrete pad. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-303	FAA Building 602. Utility built in 1942 to house sewer pump. No longer stands. 6' x 6' concrete foundation remains.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-304	FAA Building 601. Engine generator built in 1942. Wood frame and siding with metal roof. Contributes to Northway FAA Facility and represents CAA activities in Alaska.	USACE Determined not eligible, SHPO concurred 8/29/00
NAB-313	Northway Staging Field. Airfield built in 1941-1942	USACE Determined not eligible, SHPO concurred 12/14/01

AHRS #	Site Name and Description	Preservation Status
NAB-314	Moose River Cemetery. Graves located at existing NE corner of Runway 22.	Archaeological and historical survey performed in 1994 suggests that remains are unlikely due to extent of airfield construction activities. Site not expected to be included as part of project area.

A 1994 USACE historical and archaeological survey suggests that remains are unlikely to be found in the destroyed cemetery at the end of Runway 22 (See Appendix D). An archaeological survey performed in June 2005 confirmed the presence of human gravesites east of Runway 22 is not likely (Mobley, 2005). The 2005 survey found there are no properties eligible for the National Register of Historic Places (National Register) within the area of potential effect (APE) at the material site or along the proposed Northway Road alignment. The archaeologist did obtain two new AHRS numbers, TNX-139 for a stand of culturally modified trees (trees that have been modified by human means for cultural purposes, in this case stripped birch bark for Native birch bark baskets) on the east edge of the material site and NAB-366 for remnants from the former FAA greenhouse site north of the proposed Northway Road alignment, but states these sites are not eligible for the NRHP (Mobley, 2005). Moving west from the former greenhouse location along the proposed Northway Road alignment, the survey identifies old trucks and a construction roller, remains of a horse camp and tent camp, and the remains of a dog camp located outside the APE to the north. These sites have no AHRS number and no National Register eligibility (Mobley, 2005).

DOT&PF sent consultation letters to Northway Natives, Inc.; Northway Village Council; and, the SHPO. These letters requested information to identify places of traditional and cultural importance, and historic properties that might be affected by this project. DOT&PF received no responses.

4.9.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact historic, archaeological, or cultural resources.

Action Alternative

The SHPO granted a determination of "No historic properties affected" for preliminary geotechnical drilling at the material site, along the runway, and within the proposed Northway Road alignment. This determination, dated April 18, 2005, is included as Appendix D. FEMA

determined that no historic properties would be affected by the proposed action and asked SHPO for concurrence in a letter dated August 18, 2005 (Appendix D). The SHPO granted a determination of "No historic properties affected" for the project as well. This determination, dated September 12, 2005, is included as Appendix D. The Proposed Action would not impact historic, archaeological, or cultural resources. The contract specifications would include provisions for discovery of unknown historical or cultural resources. The contractor would be required to cease operations immediately in the area of discovery and notify DOT&PF and the SHPO. No additional mitigation is required.

4.10 Socio-Economics

4.10.1 Affected Environment

Northway is an unincorporated area in an unorganized borough with no taxing authority. Land adjacent to the airport property is not zoned and is primarily undeveloped except for about 10.2 acres used for the Northway School, which is located on the north side of the Northway Road east of the airport.

Northway is made of three disparate settlements, Northway at the airport, Northway Village, and Northway Junction. Northway Junction is located at milepost 1264 of the Alaska Highway, 5.5 miles northeast of ORT. Northway Village is about 2 miles north of the airport. Northway, located adjacent to ORT, is between Northway Village and Northway Junction.

The population of Northway is about 95, of which 82.1 percent are Alaska Native or part Native (2000 US Census). The airport provides most wage employment, including employment at the FAA flight service station and U.S. Customs office. Northway has a motel, café, bar and pool hall, and electric utility company that provide some employment. Fire fighting, construction, and trapping also provide income. The Native population relies heavily on subsistence (Alaska Community Database, Website). 2000 US Census Data showed 32 employed residents; the median household income was $59,375, and 21.1 percent of residents were living below the poverty level (2000 U.S. Census).

Northway electricity is provided by the Alaska Power Company. Over half of Northway households are not plumbed, and the Northway Village Council operates the local washeteria (Alaska Community Database, Official Website). About 60 students attend the only school in the

community. There is a local health clinic, the Northway Village Clinic at Northway village. Emergency Services may access Northway via the airport or highway.

4.10.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact the social or economic environment at Northway. This alternative would not provide potential, temporary positive impact to the community as construction could induce local employment opportunities.

Action Alternative

Construction of the Proposed Action would not relocate any residence or business. No established communities would be divided or appreciably disrupted by this project. However, surface transportation patterns may be altered during construction. The contractor would be bound by contract specification to develop a TCP and receive approval from DOT&PF for this plan. The TCP would address traffic detours, altered traffic controls, and local access to lease lots. Northway Road is the only road access between Northway Village and the Alaska Highway. The construction contract would require the TCP include provisions to communicate road closures and major delays to the local Northway community.

Temporary road closures and delays may be necessary during alignment connection of the new and old Northway Road. Hauling activities may create temporary delays. Northway Road delays are not expected to present significant, appreciable socio-economic impacts or hazards. The contractor would select hauling vehicles. Assuming the contractor uses dump trucks with attached trailers (20 CY total), approximately 14,000 trips would be required to haul the 280,000 CY of fill required for this project. DOT&PF Northern Region Maintenance and Facilities maintains Northway Road. Northway Road is in adequate condition to support hauling activities during the construction season. Gary Taylor, DOT&PF Maintenance and Operations Foreman for the Northway area, requested hauling take place after spring break-up in order too minimize impact to Northway Road. The construction contract for this project would limit hauling to post-breakup. DOT&PF Maintenance and Operations would be prepared to address impacts to Northway Road from normal hauling activities.

Long-term employment would not be changed. However, a construction crew in Northway would create increased economic potential for local retail and hospitality services in Northway,

Northway Junction, and Tok. The Northway Lodge can reasonably expect increased food and beverage sales and room rentals. The post office at Northway may sustain increased activity. The Northway Village Clinic may receive increased patient activities, while major injuries would most likely still be transported to Tok or Fairbanks. These impacts would be temporary in nature, lasting through project construction. Construction projects of this size typically have 50-70 workers throughout the life of the project. But, Socio-economic impacts are not quantifiable, as impacts depend on the number of construction workers and their actions while on the job.

The Northway Native Council, a federally recognized tribe located in Northway Village, would not be negatively affected by the proposed project. Potential temporary tribal employment from construction activities may benefit the socio-economics of Northway Village. DOT&PF would include a special notice to construction bidders in the bid package when DOT&PF advertises the project for construction that would require the contractor to meet with local tribal entities to coordinate potentials for temporary tribal employment during project construction. Potential temporary employment opportunities for tribal members may include sign and flagging, general labor, and heavy equipment operation.

4.11 Environmental Justice

4.11.1 Affected Environment

EO 12898, entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" directs federal agencies, "…to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States…." In compliance with FEMA policy, the socioeconomic conditions and potential effects related to this project have been reviewed.

Demographic information for Northway was compiled using 2000 Census Data. Table 7 lists Northway race and ethnicity census information.

Table 7: Northway Demographics

Race or Ethnicity	Number	Percentage (%)
White	17	17.9
American Indian or Alaska	68	71.6

Native		
Two or more races	10	10.5
Total Population: 95		

Source: 2000 Census, www.census.gov/

Northway has a higher minority percentage than Tok (22%), the nearest town with at least 1,000 residents, and a higher minority percentage than the State of Alaska (20.3%). Northway's proximity to the Northway Native Village (two miles) reflects the larger percentage of Alaska Natives.

4.11.2 Environmental Consequences

No Action Alternative

Under the No Action alternative, the project site would remain unchanged, and there would be no disproportionate impact to low-income or minority populations.

Action Alternative

The scope of this project is limited and would not include business or residential relocation, displacement, or division. The Proposed Action would have no negative impact on disproportionate low-income or minority populations. Potential temporary employment from construction activities may have a net beneficial impact for low-income or minority populations in the Northway area.

4.12 Visual Resources

4.12.1 Affected Environment

The general visual character of the area surrounding Northway Airport is typical for eastern Interior Alaska. The area around ORT has interspersed waterbodies and poorly drained upland areas, which is typical for this region. Vegetation surrounding the airport and Northway Road is typical boreal forest. Evergreen spruce forests surround ORT and are adjacent to the Northway Road. The visual setting at ORT consists of developed airport property, surrounding lease lots, and the Northway Road. Key view observation points of ORT and adjacent lease lots are likely from the airport, existing lease lots, and the existing Northway Road adjacent to Runway 04. Key view observation points of Northway Road come from the road itself. Observers of these viewsheds include airport users and travelers on Northway Road.

4.12.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact visual resources at ORT.

Action Alternative

The Proposed Action would not significantly impact the visual setting at ORT. Project construction and development is in line with the existing developed environment adjacent to the airport. Approximately 108 acres would be cleared to remove FAR Part 77 obstructions and clear the OFA (Figure 8 and 9). Developed lands would continue to dominate the visual setting at ORT. Vegetation clearing would push back the natural vegetation setting to the extent of clearing limits. This action would reveal a buffer zone of undeveloped space surrounding the runway.

There are no sensitive light receptors, such as residences, churches, or hospitals near ORT. Pilots approaching ORT would activate lighted visual aids and NAVAIDs through radio controls. Thus, illumination would occur only as needed.

4.13 Solid Waste and Hazardous Materials

4.13.1 Affected Environment

A Draft Phase I Environmental Site Assessment (ESA) prepared for this project identified 13 sites as recognized environmental condition (REC) sites (USKH, Phase I ESA 2005). Figure 13 shows the location of RECs at or adjacent to the project site. The former Bulk Fuel Storage Site/Contaminated Soil Stockpile Area (Site 5, Figure 13) is within the proposed Northway Road alignment. This site presents a REC to the Proposed Action due to potentially contaminated soils remaining from soil stockpiling activities and Diesel Range Organics (DRO) and Gasoline Range Organics (GRO). Monitoring well analysis encountered BTEX (benzene, toluene, ethylbenzene, and xylene) groundwater contamination above ADEC and EPA cleanup standards at this location. Debris (sites 15-1 through 15-3 on Figure 13) northeast of the apron area, presents a REC to the Proposed Action due to the potential for petroleum contamination, potential hydraulics from discarded machinery, and potential asbestos containing material. The remaining REC sites outlined on Figure 13 may present a REC to the project site from existing aboveground storage tanks as potential sources of petroleum contamination.

Interviews performed during tribal consultation and as part of the ESA revealed rumors that military debris is buried under the runway and at various locations throughout the area. Local residents could not verify the location of buried debris. Previous environmental site assessments and geotechnical borings, in addition to the ESA for this project, show no indication of debris buried under the runway, or in other project site locations.

4.13.2 Environmental Consequences

No Action Alternative

The No Action alternative would not impact solid waste or hazardous materials. This alternative would not provide the opportunity to further remediate existing locations of potential hazardous materials at the former Bulk Fuel Storage Site/Contaminated Soil Stockpile area.

Action Alternative

The Proposed Action may encounter hazardous materials during construction of the apron, taxiway/taxilane and construction realignment of the Northway Road and connector road. Construction contracts would include a provision that in the event contaminants are encountered at any location during excavation, the contractor would contact the ADEC and take the necessary steps for proper waste handling and reporting.

Figure 13: Areas of Concern

4.14 Secondary and Cumulative Impacts

4.14.1 Affected Environment

Reasonable and foreseeable secondary and cumulative impacts are identified for the geographical extent of the project, including the proposed material site and haul route.

4.14.2 Environmental Consequences

No Action Alternative

The No Action Alternative would not create secondary or cumulative impacts. This alternative would negate positive secondary impacts such as local economic stimulation via increased temporary job opportunities and sales of goods and services to the construction crew.

Action Alternative

The Proposed Action may create reasonable and foreseeable secondary impacts to Northway during construction. It is not known how many construction workers would be in Northway at any given time, however, it is reasonably assumed that construction crews would require some degree of lodging, food, and service needs. Secondary impacts may include establishing temporary housing locations for workers, lodging at the Northway Lodge, and increased utilization of food services at the lodge. These secondary impacts would be temporary.

Construction of the new Northway Road is not expected to open new development along the realigned road corridor. Except for the FAA Flight Service Station adjacent to the airport, there has been no new development in the airport area for about 10 years. The new Northway Road would be completely on airport property. DOT&PF has no additional plans to develop airport property adjacent to the new Northway Road.

Airport improvements would not increase air operations at the airport. Before construction, the Lockheed PC Orion and McDonald Douglas DC-6 were the design aircraft. After construction, the design aircraft would not change. The infrequency of flood events affecting flight operation does not provide sufficient data to analyze potential secondary or cumulative impacts created by raising the runway 3 feet.

During construction, small, Group I, (typical single engine general aviation aircraft) will use the ski strip adjacent the runway, but the airport will be closed for larger aircraft. Larger aircraft

would be required to use the nearest available airport with a 5000 ft runway or longer, possibly Tanacross. Tanacross is 70 road miles from Northway and about a 2-hour drive. General aviation aircraft are by far the primary users of ORT and would not be impacted by construction with the available ski strip for landing. Larger aircraft for fire fighting and U.S. Customs may be impacted.

Specific mitigation measures for indirect impacts are addressed along with mitigation for direct impacts in Section 6. Secondary and cumulative impacts to the Northway natural and human environment are not significant for the Proposed Action.

DOT&PF has no knowledge of past, present, or planned future projects that may create cumulative impacts. Combined effects of this project would not create reasonable or feasible cumulative impacts.

5 CONSULTATION AND COORDINATION

5.1 Scoping

A public meeting was held on June 8, 2005, at the Community Hall in Northway Village. Fifteen people attended the meeting. Representatives from FEMA, DOT&PF, State of Alaska Division of Homeland Security and Emergency Management (DHS&EM), the project archaeologist, and consulting engineers presented project information to the public.

5.2 Agency and Tribal Coordination

FEMA has coordinated with State and Federal resource agencies and Tribal entities. Scoping letters were emailed to resource agencies on April 18th, 2005 (Appendix E). Tribal consultation initiation letters were mailed to Northway Natives, Incorporated, and the Northway Village Council on May 18th, 2005 (Appendix F). FEMA, DOT&PF, DHS&EM, and consulting engineers met with Daisy Northway, Northway Natives Village Council Tribal Administrator, on June 8th, 2005 to discuss the project. Meeting notes may be found in Appendix E. Tribes and agencies would have opportunity to comment on the draft EA. Comments would be addressed and incorporated into the final EA.

5.3 Permits and Approvals

This Proposed Action would require the following permits and approvals.

- USACE Section 404 Permit

- ADEC Section 401 Water Quality Certification
- EPA NPDES Construction General Permit for discharge of stormwater from construction activities
- Contractor-specific permits according to ADOT&PF standard specifications

The No Action alternative would not require any permits, certifications, or clearances.

6 MITIGATION MEASURES

The Proposed Northway Road Option was selected to minimize impact to existing lease lots. The following mitigation measures are included in this project:

Geology, Morphology, and Soils

- Earthquake mitigation measures such as geofabric or geodgrid under the runway to add strength, wick drains to relieve pore pressure, or dynamic compaction to stabilize soils will be used.
- The contractor will use a hydro-axe to clear vegetation. Grubbing activities will not occur. Vegetation will be reduced to chip size and left as organic material on the vegetative mat. Northway Road will be constructed on top of the vegetative mat and chipped organic material.
- BMPs, such as silt fences, will be used to limit runoff from soil erosion. Clearing methods that substantially disturb the existing ground will not be allowed.
- Watering will be used to mitigate wind blown soils from construction activities. The construction contract will require the Contractor to obtain a water use permit from the Alaska Department of Natural Resources (DNR).

Climate and Air Quality

- Dust control measures, most likely watering, will be used to control dust from construction activities. The contractor will acquire ADEC permits for watering activities. Additional dust control measures may include:
  - Wind fencing and other erosion control techniques
  - Traffic and vehicle speed reductions at the site
  - Stabilizing or covering material stockpiles and sources
- BMPs, generally watering, would be used during construction to control dust.

Hydrology and Water Quality

- DOT&PF will prepare an ESCP in compliance with the NPDES to minimize erosion and sedimentation from construction.
- The contractor will be required to prepare and implement a SWPPP using BMPs.
- Silt fences, and other BMPs, would be installed to reduce surface runoff to local water bodies.
- The proposed Northway Road would be constructed with a center crown to facilitate drainage to roadside soils for natural infiltration.

Floodplains and Wetlands

- Halt construction activity and flood proof features and exposed material in the event of a pending or predicted flood
- Provide erosion control BMPs to permanently stabilize and secure exposed areas and fill as it is placed
- Locate equipment fueling and maintenance areas outside of the floodplain or close and secure the areas in the event of a flood
- Provide flood level equalizing culverts under/through the new Northway Road
- Provide the State of Alaska Floodplain Administrator with As-Built drawings and documentation showing the elevation of the finish grade of the runway, taxiway, taxilane, apron, and Northway Road and the location of several local bench marks
- Provide in-lieu fee mitigation for wetland impacts in the amount of $500 to the Alaska Wetlands Conservation Fund
- Raise the runway centerline about 3 feet above the average elevation of the lowest portion of the runway

Fish and Wildlife

- Airport fencing will be limited to the north side of the runway and will not affect animal migration.
- Potential nesting habitat will be removed to the extent of clearing limits.

Historical and Cultural Resources

- The contract specifications will include provisions for discovery of unknown historical or cultural resources. The contractor will be required to cease operations immediately in the area of discovery and notify DOT&PF and the SHPO.

Socio-Economics

- The contractor will be bound by contract specification to develop a TCP and receive approval from DOT&PF for this plan. The TCP will address traffic detours, altered traffic controls, and local access to lease lots. The construction contract would require the TCP include provisions to communicate road closures and major delays to the local Northway community.
- DOT&PF will include a special notice to construction bidders in the bid package when DOT&PF advertises the project for construction that will require the contractor to meet with local tribal entities to coordinate potentials for temporary tribal employment during project construction.

Solid Waste and Contaminated Materials

- The construction contract will include provisions that if contaminated materials are encountered during excavation, the contractor will contact the ADEC and follow the procedures for handling contaminated materials established in the construction contract.

Additional Construction Considerations

- Hauling would not take place until after spring break-up to minimize impact to Northway Road.

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